



ALLERGIES

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Allergies

Students with allergies can present a potential critical medical emergency situation for a school. A student with allergies may be allergic to anything from peanut butter to a bee sting to mold and dust. It is crucial that the school staff know about the individual student's allergy and how to manage the student with allergies.

I. Definition

An allergy is an exaggerated or abnormal reaction to a substance or situation that may include administering a foreign substance or drug, the digestion of an offending food, or an insect sting. The reaction can range from sneezing, itching, or rashes to an anaphylactic reaction. An anaphylactic reaction (shock) is a severe and sudden generalized systemic reaction that is potentially life-threatening. Symptoms of an anaphylactic reaction:

- Apprehension and flushing
- Sneezing and coughing
- Itching or burning
- Urticaria (rash), particularly on the face and upper chest
- Edema of affected areas, especially the face
- Respiratory difficulty, wheezing, or shortness of breath
- Cyanosis (blueness of lips or nailbeds) or pallor
- Imperceptible pulse

II. Management

A. Individualized Health Care Plan

Every student with known allergies should have an Individualized Health Care Plan. The plan should include what the student is allergic to (being as specific as possible), signs and symptoms the student may exhibit when having an allergic reaction, and the treatment or procedure prescribed by the primary health care provider for an allergic reaction. The lawful custodian and the primary health care provider can help school staff identify sources of potential allergens by identifying foods, medications, or other substances that may contain the allergen and how to read labels so that potential allergens can be identified. The treatment or procedure for an allergic reaction should include an emergency plan of action. Any treatment or procedure for responding to an allergic reaction **must be authorized** by the primary health care provider. Epinephrine is a medication that is used frequently to treat acute allergic reactions. Refer to the sample epinephrine protocol in the medication section for more information.

All students known to have allergies should be encouraged to wear identification tags. Therefore, if they do have an allergic reaction, care may be rendered more quickly and effectively.

B. Management Of An Allergic Reaction

If a student does have an allergic reaction, care should be provided as ordered by the primary health care provider. Care may range from administering a medication (to counteract the adverse reaction to the foreign substance) to provision of life support cardiopulmonary resuscitation (CPR).

III. Anaphylaxis

A. Definition

Anaphylaxis is a life-threatening, sudden onset allergic reaction occurring in some students with severe allergies. Students who have known episodes of anaphylaxis often are prescribed injectable epinephrine in the event of an anaphylactic reaction. To be effective, this medication must be used immediately, as the allergic reaction can be rapidly life-threatening.

B. Management (Recommendations of February 2001 American Academy of Pediatrics)

The AAP Committee on School Health recommends schools be equipped to treat anaphylaxis in students whether or not the student has a history of allergies since life-threatening anaphylaxis to a variety of agents (e.g., foods, stinging insects, and medications) can occur while at school.

1. Prevention of exposure is of primary importance and requires close communication between school, family and medical authorities.
2. Treatment of choice is epinephrine subcutaneously.
3. Students with a history of anaphylaxis should have ready access, and immediate availability to epinephrine.
4. In the absence of the school nurse, other school personnel should be taught to recognize anaphylaxis, and to administer epinephrine in an emergency.
5. Legislation is needed in many states to provide a mechanism for certifying non-medical persons to administer epinephrine.

School nurses in Kansas may want to work with the district's school health advisory council and/or a local physician to develop a protocol which addresses the treatment of the student without a prior history of anaphylaxis.

C. Policy for Use of Epinephrine (Epi-Pen)

1. Epinephrine shall be in the form of pre-measured, auto-injectable syringes prescribed for each student individually by his/her physician.

2. The lawful custodian must supply the medication and is responsible for making certain that the medication is in-date and the prescription current.
3. Written permission to administer the medication from the lawful custodian and written orders from the physician should be congruent with the aforementioned medication policy.
4. The school nurse, if available will administer the injection.

However, since this reaction may not occur when the School Nurse is in attendance (for example, bee settings on outdoor field trips, during physical education classes, or recess, etc.), it is essential that the school nurse review the use of auto-injectors with designated personnel.

5. Immediately after administering the medication:
 - Activate as a medical emergency (911)
 - Notify the lawful custodian
6. An Epi-Pen Kit should be maintained in school-site first aid supplies to administer in an anaphylactic emergency for those on whom there is no previous history of sensitivity to bee stings. The Epi-Pen Kit and prescription should be renewed annually.

Emergency Care for Anaphylactic Reaction

Procedure

Points to Remember

1. Determine if student has symptoms of an anaphylactic reaction.

*If in doubt, **TREAT** the student for an anaphylactic reaction.*

CALL PARAMEDICS (911) AT THE BEGINNING OF THE CRISIS

2. Administer the prescribed medication according to the primary health care provider's instructions and manufacturer's directions.

Prescribed medication must be specifically ordered for a certain reaction.

3. Establish vital functions (AS NEEDED)
 - a. open airway
 - b. perform rescue breathing
 - c. perform cardiopulmonary resuscitation

Send all information with the student who is being transported by the paramedics.

4. Notify primary health care provider and lawful custodians.

5. Record the procedure and student's response.¹

Latex Allergy

Latex is the sap from the *Hevea brasiliensis* tree. When chemicals are added to the sap to increase durability, strength, and elasticity, rubber is formed. Latex-containing items are found in many medical products used in the hospital, clinic, and school setting. Latex items also are commonly found in nonmedical objects used in the home, school, and community. The following items **may** contain latex:

Medical items:

- Gloves
- Catheters
- Tape or elastic bandages
- Occupational therapy elastic bands
- Wheelchair cushions or tires
- Crutch pads
- Intravenous set-up ports

Nonmedical items:

- Balloons
- Rubber balls or toys (e.g., Koosh ball)
- Baby bottle nipples or pacifiers
- Art supplies
- Condoms
- Diapers or elastic clothing

Allergic reactions to natural latex rubber frequently have been reported, particularly in children with chronic conditions, such as spina bifida, and urological anomalies; these children are often exposed to latex products. Health care workers and children with histories of multiple surgical procedures or many allergies also are at risk.

Allergic reactions to latex include watery eyes, wheezing, rash, hives, swelling, and, in severe cases, life-threatening anaphylactic shock. Allergic responses can occur when latex-containing items touch the skin; touch mucous membranes, including mouth, urethra, rectum, or genitals; enter the bloodstream, through intravenous or intraoperative exposure; are inhaled, usually carried by the powder from latex gloves or balloons (the powder absorbs the latex protein and can cause reactions when in contact with a child's skin as well or when ingested on food handled by latex gloves); and come into contact with internal organs during surgery.

Alternative, nonlatex products for most of the previously mentioned items, usually of vinyl silicone, or plastic, are available. The alternative products are recommended for any individual who has a history of allergic reaction to latex and for individuals who are at risk for developing these allergies.

School personnel who use latex products should be aware of the possibility of allergic reactions in students with chronic conditions and in themselves. Communication with students and families about this allergy and documentation of the allergy are recommended. Individuals with allergies should discuss with their physician the possible use of Medic Alert tags, injectable epinephrine kits, and prophylactic medication before surgery or invasive testing.

The figure below is a list of latex products and alternatives in the hospital environment. The figure on the following page is a list of latex products in the home and community. These lists are updated twice a year and are available from the Spina Bifida Association of America (1996). To safely manage a child with allergies to latex in the school setting, members of the child's health care team may be good resources.

LATEX IN THE HOSPITAL ENVIRONMENT

<i>Frequently contain LATEX</i>	<i>Examples of LATEX-SAFE alternatives/barriers</i>
Anesthesia, ventilator circuits, bags	Neoprene (Anesthesia Associates, Ohmeda adult), well-washed systems
Band-aids	Active Strips (3M-latex in package), Snippy Band (Quantasia), Read-Bandages
Bed protectors (washable rubber)	Disposable underpads
Blood pressure cuff, tubing	Cleen Cuff (Vital Signs), Dinamap (Critikon), nylon (PyMaH)
Bulb syringe	PVC (Davol), Medline, Rusch
Casts: Delta-Lite Conformable (J&J)	Scotchcast soft cast, Delta-Lite S, Fiberglass, Fabric (J&J), Caraglas Ultra
Catheters, condom	Clear Advantage (Mentor), ProSys NL (ConvaTec), Coloplast, Rochester
Catheters, indwelling	Silicone (Argyle, Bard, Kendall, Rochester, Rusch, Vitaid)
Catheters, leg bags, drainage systems	Velcro, nylon, PVC (Dale, Mentor), Bard systems
Catheters, straight, coude	Bard, Coloplast, Mentor, RobNel (Sherwood)
Catheters, urodynamics	Bard, Cook, Lifetech, Rusch
Catheters, rectal pressure	Cook, Lifetech
Dressings: Dyna-flex (J&J), BDF Elastoplast	Duoderm (Squibb), Reston foam (3M), Opsite, Venigard, Comfeel (Coloplast)
Action Wrap, Coban (3M),	Xerofoam (Sherwood), PinCare (Hollister), Bioclusive, Montgomery straps (J&J), Webrill (Kendall), Metalline, Selopor, Opraflex (Lohmann)
Elastic wrap: ACE, Esmarch, Zimmer	NOTE: Steri-strips, Tegaderm, Tegisorb (3M) have latex in package
Dyna-flex, Elastikon (J&J)	coNco All Cotton Elastic Bandages, Adban Adhesive Elastic Bandage,
Electrode bulbs, pads, grounding	X-Mark (Avcor), Comprilan (Jobst), Esmark (DeRoyal)
Endotracheal tubes, airways	Baxter, Dantec EMG, Conmed, ValleyLab, Vermont Med
Enemas, Ready-to-use (Fleet-latex valve)	Berman, Mallinckrodt, Polamedco, Portex, Rusch, Sheridan, Shiley
	Glycerin, BabyLax (Fleet), Theravac, Bowel Management Tube (MIC)
	cone irrigation set (Convatec)
G-tubes, buttons	Silicone (Bard, MIC, Stomate), Rusch
Gloves, sterile, clean, surgical	Vinyl, neoprene, polymer gloves: Allergard (J&J), dermaprene (Ansell),
	Neolon, SensiCare, Tru-touch (B-D), Nitrex, Tactyl 1,2 (SmartPractice),
	Duraprene, Triflex (Baxter)
IV access: injection ports, Y-sites, bags	Cover Y-sites and do not puncture. Use stopcocks for meds. Flush tubing.
buretrol ports, PRN adapters, buretrol ports,	Do not puncture bag ports to add meds. Polymer injection caps (Braun),
PRN adapters, needleless systems	Abbot nitroglycerin tubing; Walrus, Gemini (IMED), some Baxter systems,
	Braun, Baxter buretrols, SAFSITE (Braun), Clave, Abbott needleless systems
OR masks, hats, shoe covers	Replace elastic bands with twill tape ties
Oxygen masks, cannulas	Remove elastic bands; check content of valves
Medication vial stoppers	Eli Lilly, Fujisawa; if not certain, remove stopper
Moleskin	adhesive felt (Acme)
Penrose surgical drains	Jackson-Pratt, Zimmer Hemovac
Pulse oximeters	Certain Oxisensor (Nellcor), cover digit with Tegaderm
Reflex hammers	Cover with plastic bag
Respirators - tb (3M 9970)	Advantage (MSA), HEPA-Tech (Uvex)
Resusitators, manual	Silicone: PMR 2 (Puriton Bennett), SPUR (Ambu), Vital Blue, Respironics,
	Laerdal, Armstrong, Rusch
Stethoscope tubing	PVC tubing, cover with stockinette or ScopeCoat
Suction tubing	PVC (Davol, Laerdal, Mallinckrodt, Superior, Yankauer), Medline, Ballard
Syringes, disposable	Draw up medication in syringe right before use; Terumo Medical, Abboject,
	Norm-Ject (Air-Tite), Abbott PCA, EpiPen, certain 1cc, 60 cc syringes (BD)
Tapes: adhesive, porous, pink, Waterproof (3M)	Dermaclear, Dermicel, Waterproof (J&J), Durapore, Microfoam, Micropore,
Tourniquet	Transpore (3M), Mastisol liquid adhesive
Theraband, Therastrip, Theratube	Children's Med Ventures, Grafco, VelcroPedic, X-Tourn straps (Avcor)
Tubing, sheeting	Exercise putty (Rolyan)
Vascular stockings (Jobst)	plastic tubing -Tygon LR-40 (Norton), elastic thread, sheets (JPS Elastomerics)
	Compriform Custom (Jobst)

LATEX IN THE HOME AND COMMUNITY

<i>Frequently contain LATEX</i>	<i>Examples of LATEX-SAFE alternatives/barriers</i>
Art supplies: paints, glue, erasers, fabric paints	Elmers (School Glue, Glue-All, GluColors, Carpenters Wood Glue, Sno-Drift Paste), FaberCastel art erasers, Crayola Products (except for rubber stamps, erasers). Liquitex paints. Silly Putty
Balloons Balls: Koosh balls, tennis balls, bowling balls	Mylar balloons PVC (Hedstrom Sports Ball)
Carpet backing, gym floor, basement sealant Clothes: applique on Tees, elastic on socks, underwear, soles on sneakers, sandals Condoms, contraceptive diaphragm Crutches: tips, axillary pads, hand grips	Provide barrier - cloth or mat Cloth-covered elastic, neoprene (Decent Exposures, NOLATEX Industries) Polyurethane (Avanti), female condom (Reality) Cover with cloth, tape
Dental dams, cups, bands, root canal material Diapers, Incontinence pads, rubber pants	Wire springs, dental sealant (Delton) Huggies, First Quality, Gold Seal, Tranquility, Drypers, Attends (some)
Feeding nipples Food handled with latex gloves	selected Gerber, Evenflo, MAM, Ross, Mead Johnson nipples Synthetic gloves for food handling
NOTE: associated allergies are reported to kiwi, banana, avocado and other fruits	
Handles on racquets, tools	Vinyl, leather handles, or cover with cloth or tape
Infant toothbrush-massager	Soft bristle brush or cloth, Gerber/NUK
Kitchen cleaning gloves	PVC MYPLEX (Magla), cotton liners (Allerderm)
Newsprint, ads, coupons dusted with latex	
Pacifiers	Binky, Gerber, Infa, Kip, MAM, Childrens Medical Ventures
Rubber bands, bungee cords	Plasti bands
Toys - Stretch Armstrong, old Barbies	Jurassic Park figures (Kenner), 1993 Barbie, Disney dolls (Mattel), many toys by Fisher Price, Little Tikes, Playschool, Discovery, Trolls (Norfin)
Water toys & equipment: beach thongs, masks, bathing suits, caps, scuba gear, goggles Wheelchair cushions, tires	PVC, plastic Jay, ROHO cushions, Cover seats, Use leather gloves
Zippered plastic storage bags	Waxed paper, plain plastic bags

Latex free products for home and community can be ordered from:

- Alternative Resource Catalog (Latex Free Products for Daily Living) 708-503-8298
- NOLatex Industries 800-296-9185

Please note: This list is offered as a guideline to individuals, families and professionals by the Latex Committee of the Nursing Council, Spina Bifida Association of America, with contributions from North East Myelodysplasia Association and many individuals. It is very difficult to obtain full and accurate information on the latex content of products, which may vary between companies and product series. Checking with suppliers before use with latex allergic individuals is strongly recommended. The information in this list is constantly changing as manufacturers improve their products and as we learn more about latex allergy. For more information, or to share product content information, please contact the Spina Bifida Association of America.

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NOTE: The list of latex-containing items found in the home and community and latex-safe alternatives and/or barriers for each is updated twice each year; for an updated version of this list or more information about latex allergy, contact the Spina Bifida Association of America. Established in 1973, SBAA is a national non-profit association located in Washington, D. C. The mission of SBAA is to promote the prevention of Spina Bifida and to enhance the lives of all affected. For further information, contact SBAA at 202-944-3285 (voice); 202-944-3295 (fax); e-mail: sbaa@sbaa.org; or write to the following address: Spina Bifida Association of America, 4590 MacArthur Blvd NW, Ste 250, Washington, D.C. 20007-4226. (Reprinted by permission of the Spina Bifida Association of America.)

NOTES

1. Information on pages 1-4 in this section has been adapted from the following:

Blanco, C., Carrillo, T., Castillo, R., Quiraite, J., & Cuevas, M., (1994). "Avocado hypersensitivity," *Allergy*, 49 (6), 454-459.

Blanco, C., Carillo, T., Castillo, R., Quiraite, J., & Cuevas, M., (1994). "Latex allergy: Clinical features and cross-reactivity with fruits." *Annals of allergy*, 73, 309-314.

California Department of Education. (1990). "Anaphylactic reaction: Emergency Care-Procedure." *Guidelines and procedures for meeting the specialized physical health care needs of pupils*.

Lavaud, F., Prevost, A., Cossart, D., Guerin, L., Bernard, J., & Kochman, S. (1995). "Allergy to latex, avocado, pear, and banana: evidence of 30 kd antigen in immunoblotting." *Journal of allergy and clinical immunology*, 95 (2), 557-564.

2. Information on pages 5-7 in this section has been reprinted by permission from:

Spina Bifida Association of America. (1996). "*Latex in the home and community*." Washington, D.C.

Porter, S., Haynie, M., Bierle, T., Caldwell, T.H., Palfrey, J. S., (1997). *Children and youth assisted by medical technology in educational settings: Guidelines for care*. (2nd ed.). (pp. 79-82). Baltimore: Paul H. Brookes Publishing Co. All rights reserved.

Guidelines for Emergency Medical Care in School, 2001. *Pediatrics* Vol. 107 No 2, pgs. 435-36.